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(41st GRSP, 7-11 May 2007,
agenda item 3.1.)

Head Restraint GTR - Backset Limit

41st Session of GRSP
May 2007

Status of GTR

Major Issue is the Backset Limit

★ Backset Measurement Method

- Discussion was originally on whether to use R-point or H-point for measurement.
- Draft GTR allows for either measurement method

★ OICA & Japan conducted testing to validate the revised R-point test procedure proposed at Dec 2006 informal working group meeting.

- Data will compare backset measurement determined using the H-point method and the R-point method.

★ US will calculate equivalent backset limits for the measurement methods.

Expected Results

- ★ Based on prior research, the US expects the R-point equivalent backset limit to be 10-15 mm less than the H-point backset.
 - Current OICA method is similar to their method proposed in Sept 2006
 - 10 seats measured and the average R-point backset was 15 mm less than the H-point backset.
 - In Sept 2006, Japan MLIT proposed a similar measurement method, which is very close to the current OICA measurement method.
 - 3 seats measured and the average R-point backset was approximately 15 mm less than the H-point backset.

Whiplash Injuries Benefits

★ World-wide Whiplash Injuries in Rear Impact Crashes

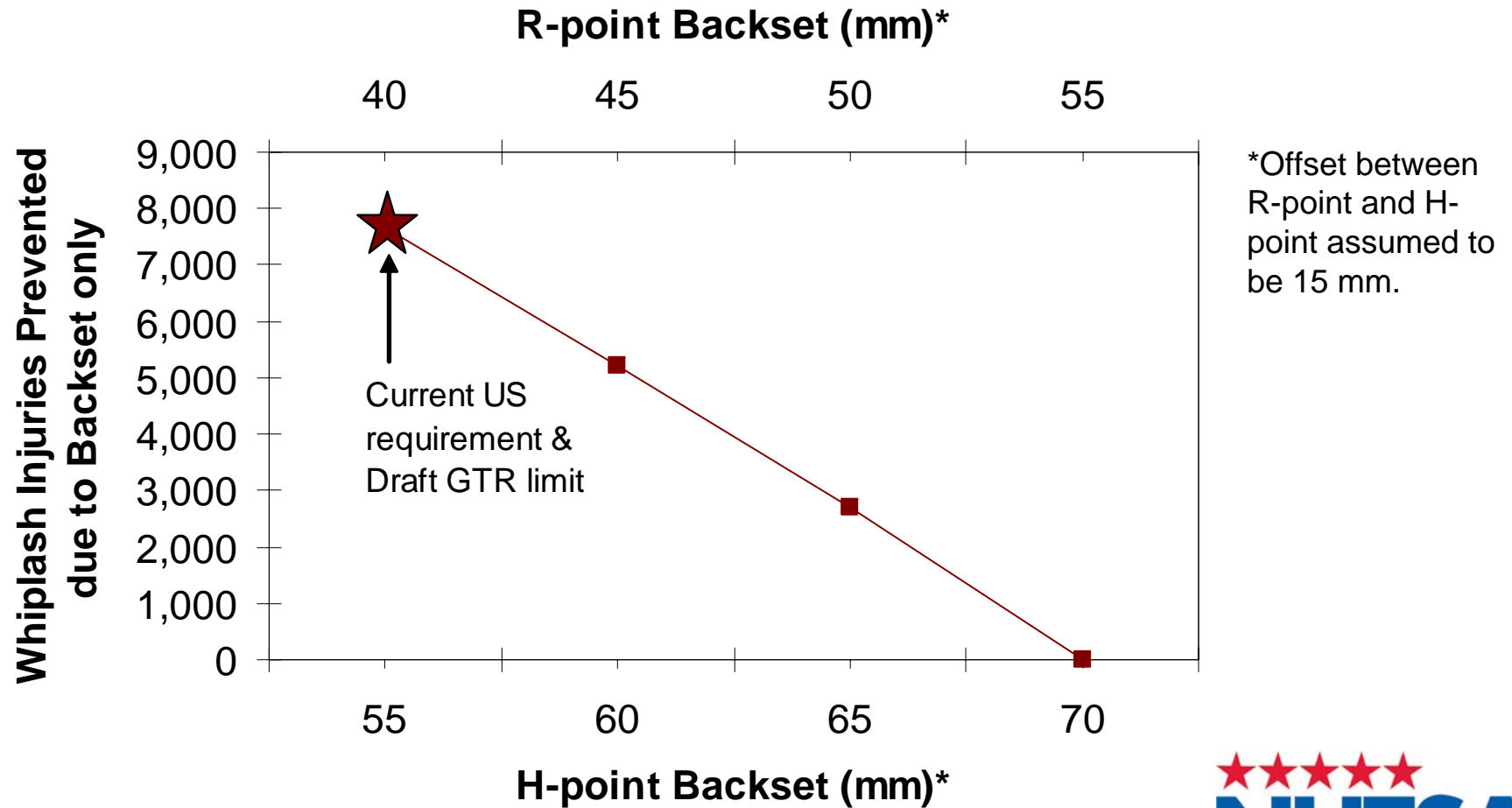
- USA: 272,464 (HR-1-8)
- Japan: 309,939 (HR-7-9)
- Korea: 260,000 (HR-7-6)
- EC15: ~340,000 (estimated)

★ Number of whiplash injuries is similar among '98 Agreement Contracting Parties, therefore benefits gained should be similar.

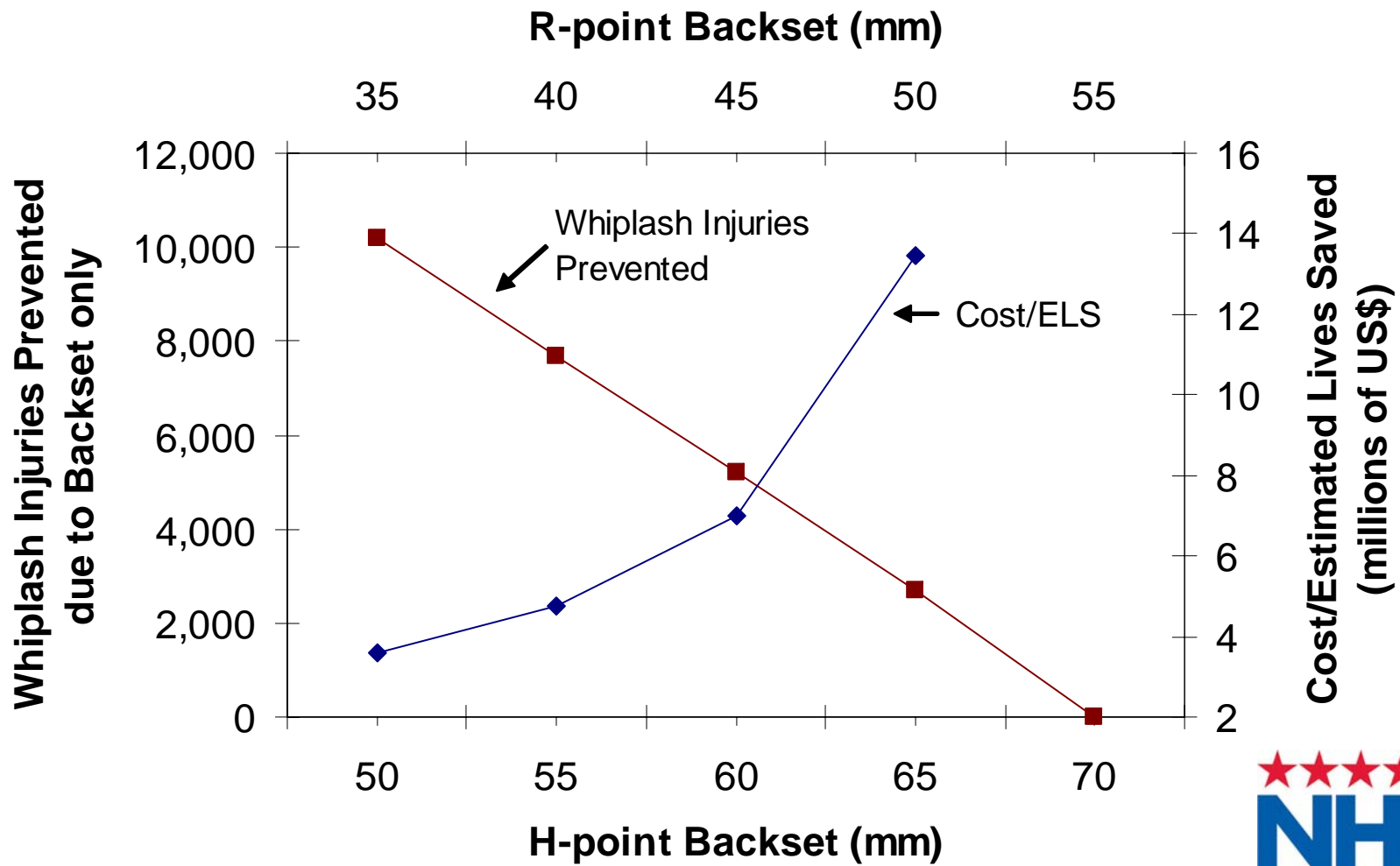
Benefit Studies

- ★ US study found that benefits to front seat occupants resulted by reducing the backset.
- ★ US provided a benefit study that correlates the backset limit to whiplash injuries.
 - Benefits are based on improving the current situation in the US fleet.
 - The current US fleet average is 70 mm at the manufacturers seat back design angle.
 - A backset limit of 70 mm using the H-point will yield zero benefits in the US.

Backset Limit & Benefits



Cost of Increasing Backset Limit



*Seat back angle set at manufacturers design angle

Backset Discussion

- ★ Increasing the backset limit from 55 to 65 mm produces
 - a 75% drop in benefits and
 - A 80% increase in cost per equivalent life saved.
- ★ The US is the only country with a regulation on backset, which will go into effect in September 2009.
- ★ The issue is whether the GTR will have a backset limit that produces benefits by reducing whiplash injuries?

US Position

- ★ GTR allows either R-point measurement method or H-point measurement method.
- ★ H-point backset limit is 55 mm
- ★ Equivalent R-point backset limit is 40-45 mm
 - depending on equivalence study to be conducted by the US and based on OICA data

Thank You

